

USSR

MOROZOV, A. Ye., et al, Magnitogidrodinam. metod polucheniya elektroenergii,
No. 3, Moscow, "Energiya", 1972, pp 268-282

component cost of electrical energy on the selection of optimal parameters of the cycle is analyzed. It is shown that with an increase in the fuel component the initial parameters of the cycle also rise. The case when the upper temperature of the cycle is limited by structural considerations is considered. In this case the optimal dryness of the vapor is in the range 0-0.1. 5 ill., 10 ref.

2/2

USSR

UDC 621-183.2:778.4

TSELIKOV, A. I., Academician, MOROZOV, B. A., Doctor of Technical Sciences, SURKOV, A. I., Candidate of Technical Sciences, and SERGEYEV, A. V., Engineer

"Potentialities of the Application of Holography in Heavy Machinebuilding"

Moscow, Vestnik Mashinostroyeniya, No 9, Sep 73, pp 7-11

Abstract: The holographic installation developed by the All-Union Scientific Research, Planning, and Design Institute of Metallurgical Machinery is described by reference to its optical schema. The results of the application of holographic interferometry for the study of deformations and dislocations of various parts, a cramp, a supporting wall, a cast in block channel beam of a hydraulic press, produced of steel and organic glass, are discussed by reference to interferograms produced by the method of double exposure. From shown interference lines of a lead specimen was plotted the distribution diagram of elastic and plastic deformations for two changing load conditions. Such diagrams can be plotted for free surfaces of plastically deformable bodies independent from their form and their material; they provide an idea of the influence of the form of the part and also of the nature of its material on the character of the propagation of deformations. Seven figures.

Acc. Nr:

AAO 108728

Abstracting Service:

Ref. Code:

UR 0482

Soviet Inventions Illustrated, Section I Chemical, Derwent, 3/70

228204 ROTATING DEVICE FOR TUBES DURING WELDING has rotary drums driven by chain and sprockets. To accommodate tubes of various diameters, one drum and its drive is carried on a hinged lever (hence variable for angle).

19.5.67 as 1156671/25-27. O.A. STEPANOVSKIY, V.A. SHATAIKIN, B.A. MOROZOV et al. (27.8.69) Bul 31/8.10.68. Class 21h. Int.Cl. H 05b.

AUTHORS: Stepanovskiy, O. A.; Shataykin, V. A.; Morozov, B. A.; Alpatov, A. Ya.

REEL/FRAME

19900507

BS

Acc. Nr:

AP0100576

Abstracting Service:

CHEMICAL ABST. 579

Ref. Code:

UR 0065

104301b Evaluating the activity of an aluminosilicate cracking catalyst. Sokolova, V. I.; Berg, G. A.; Morozov, B. F. (USSR). *Khim. Tekhnol. Topl. Masel* 1970, 15(1), 17-21 (Russ). H as gas-carrier was satd. with isooctane (I) or other raw material, heated, and fed into the reactor contg. 1 g catalyst at 550°C and the reaction products entered a chromatog. column packed with 0.3-0.4 mm firebrick contg. 15% quinoline and analyzed. The catalyst activity was detd. in relation to the amt. of H converted expressed as wt. % yield of the reaction products, detd. 30 min after feeding raw material into the reactor at space velocity 0.04-0.0035 hr⁻¹, remaining const. for another 2 hr. The relation between the conversion of I and activity coeff. of the catalyst was linear. The content of C₄H₆, obtained from secondary reactions, and butylenes as main reaction products depended on the sp. surface of the catalyst also, detg. its selectivity. The relation between the selectivity detd. as above and the ratio of gasoline to coke yields was linear. The method was also used for detg. the effect of various impurities of the raw material and metal impurities of the catalyst on its activity and selectivity. Characteristics of various catalysts and results obtained are tabulated. The app. and exptl. results are graphically presented. GGJR

REEL/FRAME
19842011

USSR

UDC: 621.375.82

MOROZOV, B. N., TATARENKOV, V. M., USPENSKIY, A. V.

"Using the Saturation Effect for Stabilization and Absolute Measurement of Laser Power"

Metrologiya, 1973, No 3, pp 38-45 (from RZh-Fizika, No 8, Aug 73, abstract No 8D1131 by the authors)

Translation: It is shown that the dependence of spectral characteristics of a medium on the power of transmitted laser emission can be used for stabilization and absolute measurement of laser power. Specific circuits are considered, and the accuracy of the method and range of the measurements are evaluated.

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USSR

UDC 621.317.382:621.378.325

NESTERENKO, V.M., MOROZOV, B.N.

"Use Of Optical Detection For Measurement Of Laser Power"

Kvantovaya elektronika, Moscow, No 5, May 71, pp 87-92

Abstract: The peculiarities are considered of the phenomenon of optical detection as applied to the measurement of laser power. Detectors of optical radiation using nonlinear polarization in crystals make it possible without attenuators to measure laser emission with a power density up to 10^9 watt/cm², and are characterized by a high speed of response (10^{-9} -- 10^{-10} sec) and a linearity which make it possible to operate in a wide range of wave lengths, including the infrared. The results of a study of five types of crystals are presented. The principal characteristics and a photograph are shown of a device for measurement of the peak power of a laser emission of 0.5--4 micrometer. The range of the power measured is 50 kw to 1 gigawatt. The maximum power density of the emission measured is 500 Kw/cm². Received by editors, 22 Feb 71. 2 fig. 1 tab. 8 ref.

1/1

USSR

UDC: 621.396.67.001.24

MOROZOV, B. N.

"Synthesis of a Cylindrical Relief Reflector for Correcting Traveling Surface Wave in a Specified Reflection Field"

Sb. tr. Nauchno-tekhn. konferentsii prof.-prepodavat. sostava
Vses. zauchn. elektrotekhn. in-ta svyazi (Collected Transactions
of the Scientific-Technical Conference of Professorial and In-
structor Staff of the All-Union Correspondence Electrical Engi-
neering Communications Institute) No. 5, Moscow, 1970, pp 154-159
(from RZh-Radiotekhnika, No. 3, March 71, Abstract No. 3B3)

Translation: The possibility is considered of using the method of synthesizing two-dimensional impedance antennas for the synthesis of a reflector with cylindrical bounds. It is shown that this is possible if the primary and secondary fields are identical. Results of the experimental verification are given. Three illustrations, bibliography of three. M. S.

1/1

USSR

UDC 621.396.677.7

M
TERESHIN, O. N., MOROZOV, B. N.

"A Procedure for Decreasing the Reaction of an Auxiliary Mirror to an Exciting Horn in a Cassegrainian Antenna"

Tr. Mosk. elektrotekhn. in-ta svyazi (Works of Moscow Electrotechnical Communications Institute), 1970, vyp. 1, pp 136-140 (from RZh-Radiotekhnika, No 9, Sep 70, Abstract No 9B46)

Translation: This article contains an investigation of the possibility of using a relief impedance adaptor for redirection of part of the emitted energy reflected from an auxiliary horn on the primary mirror in order to exclude its return incidence on the exciting horn. The parameters of the adaptor are defined. Comparison of it with the one usually used for the same purposes demonstrates its advantages. There are two illustrations and a two-entry bibliography.

1/1

24.6730

38308

S/019/62/000/009/056/125
A154/A126

AUTHOR: Morozov. B. N.

TITLE: A delay system for synchrotrons in the form of a closed-ring
diaphragm-type waveguide

PERIODICAL: Byulleten' izobreteniy. no. 9, 1962, 44

TEXT: Class 2lg. 36. No. 146894 (691077/26 of December 28, 1960).
Dependent on Author's Certificate No. 136833. The delay system for synchrotrons
in the form of a closed-ring diaphragm-type waveguide as in Author's Certificate
No. 136833, is distinguished by the fact that, to reduce the weight of the
magnetic system and reduce the loss of particles, an H-shaped waveguide is
used. ✓

Card 1/1.

USSR

UDC: 620.178.38

STRIZHALO, V. A., ZINCHENKO, A. I., MOROZOV, B. S., IL'IN, A. A., Kiev,
Kaliningrad

"Study of Low-Cycle Fatigue of Titanium-Based Alloys at -196°C "

Kiev, Problemy Prochnosti, No 7, Jul 73, pp 49-53.

Abstract: The regularities of deformation and rupture of light alloys based on titanium with repeated low-cycle loading are studied under conditions of room temperature (20°C) and low temperatures (-196°C). The change in resistance of the alloys to cyclical loading upon transition to the low temperature is studied in the range of durabilities corresponding to quasi-static and fatigue rupture. The VT1-0, VT5-1 and VT6S alloys were used in the study.

1/1

USSR

UDC 539.4.015

IL'INA, R. I., SIDOROV, N. G., MOROZOV, R. S., NIKITINA, M. F., and
KOSHELEV, P. F., Moscow

"Interrelationship of Mechanical Properties and the Structure of Aluminum
and Magnesium Casting Alloys at Low Temperatures"

Kiev, Problemy Prochnosti, No 10, Oct 70, pp 108-112

Abstract: Test results of smooth and notched specimens of aluminum and magnesium alloys in a wide range of low temperatures are presented. The A₁₉ aluminum alloy and the VMe2 magnesium alloy showed the best combination of properties in the 293-20°K temperature range. The VA₅ and Me10 alloys showed properties up to a temperature of 77°K. A₁₂₇₋₁ and A_{18M} aluminum-magnesium alloys and the Me5 magnesium alloy can be used safely at temperatures up to 203°K.

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USSR

UDC: 621.315.592

KRAVCHENKO, A. F., MOROZOV, B. V., and SKOK, E. M., Institute of Semiconductor Physics, Novosibirsk

"Reluctance of Semiconductor Films"

Leningrad, Fizika i tekhnika poluprovodnikov, No 8, 1972, pp 1520-1527

Abstract: Since the reluctance of semiconductor films offers a convenient and real method of studying the structural and kinetic characteristics of the films, the authors undertake theoretical and experiment investigation of their reluctance to weak and strong magnetic fields transverse to epitaxial semiconductor layers. The heterogeneous distribution of the local film parameters over their thickness is approximated by a step function, and the behavior of the reluctance anisotropy is analyzed. A table showing the results of the latter analysis is given. The experimental work was done on GaAs specimens grown on a semi-insulating substrate. To study the anisotropy of the transverse magnetic reluctance, angular diagrams for various specimens were plotted at temperatures of 77 and 300° K in constant magnetic fields up to 30 kOe. Comparative curves for the theoretical and experimental results are plotted.

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USSR

UDC: 621.315.592

KRAVCHENKO, A. F., KRIGER, E. D., MOROZOV, B. V., POLOVINKIN, V. G., and SKOK, E. M., Institute of Semiconductor Physics, Siberian Department, Acad. Sci. USSR, Novosibirsk
 "Nernst-Ettingshausen Effects in n-GaAs in the Phonon Drag Region"
 Leningrad, Fizika i tekhnika poluprovodnikov, vol 6, No 6, 1972, pp 1150-1151

Abstract: This paper is based on an earlier article written by some of the authors named above and published in the same journal (5, 1971, p 1608) reporting observation of the phonon drag effect of the thermo-emf in n-type GaAs. The present brief communication presents curves of the Nernst-Ettingshausen effects, longitudinal and transverse, as functions of temperature. The measurements made for plotting the curves were conducted in weak magnetic fields. A sharp rise in the effects below 200° K is noticeable in the curves; this is attributable to the drag effect. In the mathematical analysis, an expression is derived for the contribution of the phonon drag to the coefficient of the transverse M-E effect. The authors, associated with the Novosibirsk Institute of Semiconductor Physics, conclude that the relaxation time of long-wave phonons is independent of the wave vector and that the electrons are dragged by the acoustic phonons through the deformation potential.

1/1

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UDC 654.924.5

USSR

BARANOV, S. I., MOROZOV, B. V., and RUVINSKIY, B. I.

"An Integrated MDS Microcircuit"

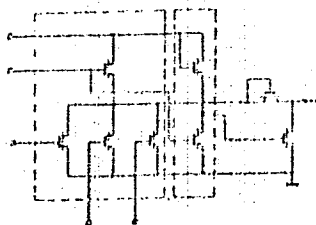
Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 22, Aug 71, Author's Certificate No 309459, Division H, filed 1 Jun 70, published 9 Jul 71, p 215

Translation: This Author's Certificate introduces an integrated MDS microcircuit which contains an input element and an inverter. As a distinguishing feature of the patent, functional possibilities are extended without increasing the number of external leads by incorporating into the microcircuit an additional stage based on two MDS transistors in which the source and gate of one transistor are connected to the output of the input element, the gate of the other transistor is connected through the inverter to the input of the input element, and the source is grounded. The sinks of both transistors are connected to the output of the input element.

1/2

USSR

BARANOV, S. I., et al., Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 22, Aug 71, Author's Certificate No 309459, Division II, filed 1 Jun 70, published 9 Jul 71, p 215



2/2

96

1/2 031 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--DEUTERON GENERATION ON NUCLEI BY HIGH ENERGY PROTONS -U-
AUTHOR--(05)-GORYACHEV, YU.M., KANAVETS, V.P., LEVINTOV, I.I., MOROZOV,
B.V., NIKIFOROV, N.A. M
COUNTRY OF INFO--USSR
SOURCE--YAD. FIZ. 1970, 11(3), 629-35
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--PARTICLE PRODUCTION, DEUTERON, PROTON BOMBARDMENT, SECONDARY
EMISSION, DIFFERENTIAL CROSS SECTION, BERYLLIUM, CARBON, ALUMINUM,
COPPER, TITANIUM, SILVER, GOLD
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FAME--1991/1063 STEP NO--UR/0367/70/011/003/0629/0633
CIRC ACCESSION NO--AP0110753
UNCLASSIFIED

2/2 031

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0110753

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CROSS SECTIONS FOR THE PRODUCTION OF D, P, AND PI POSITIVE MESONS HAVE BEEN MEASURED IN THE INTERACTION OF 6.8-GEV-C P WITH BE, C, AL, CU, TI, AG, AND AU NUCLEI. THE SECONDARY PARTICLES WITH A MOMENTUM OF 1.23 GEV-C HAVE BEEN REGISTERED AT 15 MILLIRADIANS IN THE LAB. SYSTEM. THE DEPENDENCE OF THE DIFFERENTIAL CROSS SECTIONS ON THE MASS NO., A, OF THE NUCLEI CAN BE PUT IN THE FORM $D \propto \sigma_{\text{D}} \propto \Omega$ IS SIMILAR TO A χ^2 , WHERE $\chi^2_{\text{SUBD}} \text{ EQUALS } 1.24 \text{ PLUS OR MINUS } 0.01$, $\chi^2_{\text{SUBP}} \text{ EQUALS } 0.69 \text{ PLUS OR MINUS } 0.03$, AND $\chi^2_{\text{SUBPI}} \text{ POSITIVE EQUALS } 0.45 \text{ PLUS OR MINUS } 0.03$. THE OBTAINED RESULTS MAY BE BROUGHT INTO CONSENT WITH THE BUTLER PEARSON MECHANISM OF THE D PRODUCTION IF THE ABSORPTION OF D AND N IN THE NUCLEUS IS TAKEN INTO ACCOUNT. FACILITY: INST. TEOR. EKSP. FIZ., MOSCOW, USSR.

UNCLASSIFIED

Hydrobiology

USSR

MOROZOV, D., All-Union Scientific Research Institute of Marine Fishing and Oceanography

"The Protective Reactions of Dolphins"

Moscow, Rybovodstvo i Rybolovstvo, No 5, Sep/Oct 70, p 14

Abstract: Black Sea dolphins are not endangered by any large marine predators; their only enemy is man. Because of the reduction in the number of dolphins, the Ministry of Fishery Management USSR has prohibited the catching of dolphins. According to a report written in 1914, dolphins caught in a net tried to escape either by humping over the upper edge of the net or through the net by tearing a hole in it. At present, when caught in a net, they escape by diving below the lower edge of the net. This change in behavior is attributed to learning from experience, training of the young, and natural selection, since in the 19th and early 20th century dolphins that jumped over the edge of the net were either shot or harpooned. The only protective reaction of Azov Sea dolphins is flight. White-sided dolphins try to protect themselves by congregating on the surface in a circle with their heads pointing inwards. After being captured and released in a basin following a period of enforced immobility, dolphins

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USSR

MOROZOV, D., Rybovodstvo i Rybolovstvo, No 5, Sep/Oct 70, p 14

that could not swim because their muscles had become too stiff supported themselves in the water by pressing their snouts against the bodies of human swimmers. In the training of dolphins, fish are thrown into the water by an assistant to make the dolphin approach the trainer, or reliance is placed on the natural playfulness, love of pursuit, and gregariousness of the dolphin. Although Black Sea dolphins apply a battering ram attack or hit with the tail in fighting among themselves, the only aggressive behavior noted toward human beings is an opening of the maw as a threat.

2/2

USSR

UDC 621.165-22:533.6.011

MOROZOV, D. I., and ZVONITSKIY, M. S.

"Calculation of Peripheral Irregularity of the Flow in the Outlet of a Steam Turbine"

Energ. Mashinostroyeniye. Resp. Mezhved. Temat. Nauch-Tekh. Sb. [Power Engineering. Republic Interdepartmental Thematic Scientific-Technical Collection], No 13, 1972, pp 25- (from Referativnyy Zhurnal, No 10, Oct 72. 49. Turbostroyeniye. Single Issue. Abstract No 10.49.30)

Translation: It is demonstrated that the energy loss in the improved helix of the outlet is not high (8%). Simple calculation methods of the potential plane and nonplane flow in the improved helix are presented. The calculation results of the plane flow are compared with results of flow simulation on an electroconductive paper. It is demonstrated that the high peripheral flow irregularity is one of the main sources of the low efficiency of outlets. Recommendations are given and a series of known outlet improvements is analyzed. Two illustrations, six bibliographic references.

1/1

USSR

UDC 621.165

MOROZOV, D. I.

"The Effect of Input Conditions on the Optimal Shape of the Diffuser"

Energeticheskiy Mashinostroyeniye Resp. Mezhved. Temat. Nauch.-Tekhn. Sb. (Power Machine Construction. Republic Interdepartmental Thematic Scientific-Technological Collection of Works), 1971, 11th Edition, pp 61-65 (from Referativnyy Zhurnal - Turbostroyeniye, No. 9, Sep 71, Abstract No 9.49.30.

Translation: The possibility of ensuring a continuous flow of fluid in the diffuser when the displacement of the boundary layer at the input is on the order of 1.9% of its thickness by shaping the bypasses of the short diffuser in the exhaust pipe of a turbine is demonstrated. The expansion factor of the diffuser channel is 2. The optimal shape and output width of the first channel of the deflector attached to the surface of the diffuser itself depend on the displacement thickness at the input. An expression is given which relates this thickness to the distribution of speeds at the core of the stream through the diffuser bypass. The calculations are based on the single parameter theory of a turbulent boundary layer. The use of the optimal diffuser and deflector shape makes possible an increase in the tube efficiency, and therefore in the turbine efficiency. 2 illustrations, 5 bibliographic entries.

1/1

MOROZOV D. K.

DISCUSSION

Page 1

50: STREETE, M

Facilities

PCS-57

Sept 71

Name: Institute of Medical-Biological Problems (IMBP), Moscow
Description:

Description:

(c) During this quarterly reporting period, seven new articles (1-7) were located from the Institute of Medicobiological Problems (INMP). On the basis of these articles, it was possible to identify eight new personalities with the Institute. These personalities, the subjects of the articles, and the dates are given below:

The dates are given below:

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At the
Library

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space physiology/psychology

1. The first step is to identify the problem or question that needs to be answered. This involves understanding the context and the specific requirements of the task.

Hypokinaea / a few

And in my opinion, E.

PROPERTY

McMILLAN, J. Y. P.

TEMPERATURE MONITORING

Yachtclub, F

REPORT DIVISION/SECTION

Form 122, U. S. G.

1-7-2005/PHYCNO

Котляревский, Д. Ки.

Prasanna Kumar

Frühling, K. A.

external radiation shi

1

ultraviolet radiation and

GOSBUDNAYA was associated by the article (2) with the Laboratory of Current

at *1000*. Konhilgen and Kovalson were listed in the article (4) as being associated with the Laboratory for Investigation of Nervous and Humoral Regulation at IMBP.

(U) One of the new articles was issued jointly from INHP and the Laboratory of General and Radiation Immunology at the Institute of Epigenetology and Microbiology Imeni N. P. Gagarina (6). This 1970 article, dealing with the effects of microflora on lymphoid tissue and the adrenal gland, probably

Superscript numbers in parentheses refer to items in the Reference List.

INICIACIÓN

LSSR

UDC 621.373.421.13:621.372.412

MCROZOV, E. I.

"Temperature-Frequency Characteristics of Inharmonic Oscillations in Quartz Resonators with AT-Cut Piezoelements of Plano-Convex Shape"

Elektron. tekhnika. Nauchno-tekhn. sb. (Electronic Engineering, Scientific and Technical Collection), 1970, ser 9, vyp. 2, pp 23-25 (from RZh-Radio-tekhnika, No 9, Sep 70, Abstract No 9D275)

Translation: This article contains the results of measurement of the temperature-frequency characteristics of spurious oscillations in AT-cut quartz resonators. There are two illustrations and a three-entry bibliography.

1/1

- 133 -

MOROZ, E.M.

RND / K. 760 / S. M. M. 73
MOU 1972 13

IV. INTERACTION OF SHOCK WAVES WITH SOLIDS

Balsanov, S. S., Ye. V. Dulepov, E. M. Moroz, L. V. Lukina, and V. V. Romanov. Effect of explosions on materials. Shock compression of rare earth metal fluorides. PCIV, no. 2, 1971, 265-269.

Results of a study of shock compression of ten rare earth metal (REM) fluorides and yttrium fluoride are presented. It is shown that the greatest physical characteristics change occurs using 30-50 g hexogene charges, with the exception of CeF₃ and PrF₃ for which the most significant changes occur using 100-150 g charges. All the shock-compressed materials displayed optical anisotropy, since the initial materials were finely dispersed and therefore were pseudoisotropic. The new phase is normally inhomogeneous, and the properties change occur (or accumulate) in different grains with varying intensity; the value of the effect is maximal only in a small number of crystalline particles. Table 1 shows refractivity indices of the new phases:

a	b		c	
	n_a	n_b	n_c	n_d
LaF ₃	1.47	1.47	1.47	1.47
PrF ₃	1.47	1.47	1.47	1.47
YbF ₃	1.47	1.47	1.47	1.47
SmF ₃	1.47	1.47	1.47	1.47
EuF ₃	1.47	1.47	1.47	1.47
GdF ₃	1.47	1.47	1.47	1.47
TbF ₃	1.47	1.47	1.47	1.47
DyF ₃	1.47	1.47	1.47	1.47
HoF ₃	1.47	1.47	1.47	1.47
YF ₃	1.47	1.47	1.47	1.47

Table 1. a - compound, b - initial material, c - compressed material

1/2 041 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--MAGNETIC TRANSFORMATIONS IN THE MN SUB2 GE SUBY SB SUB1 NEGATIVE
SYSTEM IN STRONG MAGNETIC FIELDS UNDER HIGH PRESSURE -U-
AUTHOR--(03)-GALKIN, A.A., ZAVADSKIY, E.A., MOROZOV, E.M. *M*
COUNTRY OF INFO--USSR
SOURCE--PHYSICA STATUS SOLIDI, 1970, VOL 37, NR 2, PP 851-856
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--MAGNETIC TRANSFORMATION, TRANSITION TEMPERATURE, STRONG
MAGNETIC FIELD, PRESSURE EFFECT, MAGNETIC STRUCTURE, ENTROPY, SPIN
SYSTEM, HIGH PRESSURE, MANGANESE COMPOUND, GERMANIUM COMPOUND,
ANTIMONIDE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1989/1071 STEP NO--GE/0030/70/037/002/0851/0856
CIRC ACCESSION NO--AP0107580
UNCLASSIFIED

2/2 041

UNCLASSIFIED

PROCESSING DATE--23OCT79

CIRC ACCESSION NO--AP0107580

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AT TEMPERATURE CHANGES SOME MAGNETIC PHASE TRANSFORMATIONS ARE OBSERVED IN THE MN SUB2 GE SUBY SR SUBI-Y SYSTEM, WHICH ARE ACCOMPANIED BY MAGNETIC STRUCTURE CHANGES. THE MAIN CHARACTERISTICS OF SUCH TRANSFORMATIONS, MAGNETIZATION CHANGE, CHANGE OF THE ENTROPY OF THE SPIN SYSTEM, AND TRANSITION HEAT, WERE DETERMINED ON THE BASIS OF MAGNETIC MEASUREMENTS OVER A WIDE RANGE OF MAGNETIC FIELDS. THE EFFECT OF PRESSURE ON THE MAGNETIC TRANSFORMATION TEMPERATURE WAS ALSO STUDIED. AN ANALYSIS OF THE EXPERIMENTAL RESULTS IS MADE ON THE BASIS OF KITTEL'S EXCHANGE INVERSION THEORY. FACILITY: PHYSICO-TECHNICAL INSTITUTE OF THE UKRAINIAN ACADEMY OF SCIENCES, DONETSK.

UNCLASSIFIED

16

UDO 621.52:539.23

USSR

TERENT'YEV, YU.P., ISHIMBAYEV, R.V., LIKHTMAN, A.YE., NEMIROVSKIY, L.N.,
SEYDMAN, L.A., SUVCROV, V.N., MOROZOV, G.A.

"Vacuum Deposition Unit With Electron Beam Evaporator [DE-394, 11 pp, 2 fig]

Elektron. prom-st'. Nauch.-tekhn.sb (Electronics Industry. Scientific-Technical
Collection), 1971, No 3, p 62 (from RZ---Elektronika i yeye primeneniye, No 3,
March 1971, Abstract No 3A45)

Translation: A vacuum deposition device was developed with an electron beam
evaporator for deposition of layers of metals and semiconductors during their
evaporation by the non-crucible method. The evaporator consists of an electron
gun, a focusing and defocusing system and a magnetic prism. Use of the magnetic
prism, which turns the electron beam by 90°, makes it possible to eliminate
completely covering up [zapyleniye] of the electron gun by the material being
evaporated. The gun is removed from the evaporation zone and consequently heating
of the substance being evaporated and the gas precipitated on it does not affect
it. This assures great reliability of evaporation, the period of continuous oper-
ation of which ≥ 50 hours and is determined only by the lifetime of the cathode
of the electron gun. The diameter of the evaporation zone with an accelerating
voltage of 20 kv and a beam current up to 25 mA is not more than 1 mm. The dis-
tance from the evaporation zone to the substrate is 60 mm. A.F.

1/1

1/2 008 UNCLASSIFIED PROCESSING DATE--SUBJECT
TITLE--USE OF A STEP BY STEP DYNAMIC EXPERIMENT FOR DETERMINING THE
OPTIMUM CONDITIONS OF A CATALYTIC PROCESS -U-
AUTHOR--(05)-BLANDIN, YU.V., KALININA, E.V., KUDRYAVTSEY, B.M., MAYOROV,
D.M., MOROZOV, G.A.
COUNTRY OF INFO--USSR

SOURCE--NEFTEPERARAB. NEFTEKHIM. (MOSCOW) 1970, (2), 32-4

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CATALYSIS, HYDROGENATION, FATTY ACID, CHEMICAL REACTOR,
CHEMICAL PRODUCT PRODUCTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1997/0567

STEP NO--UR/0318/70/000/002/0032/0034

CIRC ACCESSION NO--AP0119485

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--30OCT70

272 008

CIRC ACCESSION NO--AP0119485

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT, THE METHOD WAS APPLIED TO DIRECT
HYDROGENATION OF FATTY ACIDS TO ALCS. USING FACTORIAL PLANNING BY MEANS
OF A PILOT PLANT. THE MAX. PRODUCTIVITY, TAKEN AS OPTIMIZATION
CRITERION, WAS OBTAINED AT 240DEGREES AT THE REACTOR BOTTOM INTAKE STOCK
SPACE VELOCITY 0.3 ML-HR AND INTAKE STOCK H RATIO 1:700.

UNCLASSIFIED

USSR

UDC: 621.396.677.01

DYMSKIY, V. N., GAVRILOV, A. M., MIZGAYLOV, V. N., MOROZOV, G. A., CHONI, Yu. I.

"Synthesis of Antennas on the Basis of Experimental Data"

Tr. Kazan. aviats. in-ta (Works of the Kazan' Aviation Institute), 1970, vyp. 104, pp 19-28 (from RZh-Radiotekhnika, No 12, Dec 70, Abstract No 12B7)

Translation: The authors analyze formulation of the problem of synthesizing antennas as a problem of calculating the distribution of current density in a region of predetermined geometric configuration with respect to a predetermined complex vector radiation pattern. In this formulation, the problem reduces to solution of an operator equation. A physical interpretation is given for the operators appearing in this equation; consideration is given to the feasibility of determining these operators from experimental data. Practical examples are analyzed. Four illustrations, bibliography of six titles. N. S.

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- 13 -

Vacuum Tubes

USSR

UDC: 621.317.39:621.385.032

BERLIN, G. S., MOROZOV, G. G., TSVETKOVA, V. V., Moscow Vacuum Tube Plant

"A Triode Longitudinal-Control Mechanotron"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obratzsy, Tovarnyye Znaki, No 7, Mar 72, Author's Certificate No 329372, Division G, H, filed 10 Jan 70, published 9 Feb 72, p 151

Translation: This Author's Certificate introduces: 1. A triode longitudinal-control mechanotron containing a fixed cathode and a movable system of electrodes. As a distinguishing feature of the patent, sensitivity is improved and the measurement range is extended by making the movable system in the form of an anode and grid securely fastened together by insulators, and electrically connected to the base of the device by flexible leads. 2. A modification of this mechanotron distinguished by the fact that provision is made for connection in a differential circuit by making the movable electrode system in the form of two pairs of anodes and grids fastened together and located on both sides of the cathode.

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UDC 621.376.56

USSR

KANTOR, YE.B., MOROZOV, G.G.

"Synchronization Of Code Group In Integrated Digital Communication System"

Sb. nauchn. tr. TsNII Svyazi. Leningr.fil. (Collection Of Scientific Works Of
The Central Scientific-Research Institute Of Communications. Leningrad Branch),
1970, Issue 5, pp 82-89 (from RZh--Elektrosvyaz', No 2, February 1971,
Abstract No 2.64.101)

Translation: The problems are considered of the use of synchronization with respect to a code group in an integrated digital communication system (IDCS) constituted on the base of pulse code modulation and time division of channels. Switching of signals in an IDCS is accomplished in digital form. A synchronization device must assure equality of delay to a whole number of cycles during passage of signals with respect to switching devices and trunk lines. The synchronization device includes in itself generating equipment, a device for selection of information, a memory, and an analyzing device. It is possible to base the principles of operation of the device for selection of information on an analysis in terms of a definite number of tests (constant selection). With

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USSR

KANTOR, Ye. B. and MOROZOV, G. G. Sb. nauchn. tr. TeNII Svyazi. Leningr. fil.
1970, Issue 5, pp 82-89 (from RZh--Elektrosvyaz', No 2, Feb 1971, Abstract
No 2.64.101)

an equal volume of selection and one and the same memory threshold, the synchronization device with a variable volume of selection assures a smaller average recovery time of synchronization and a larger value for the reliability of transmission. A comparative analysis is conducted of methods of construction of synchronization devices with respect to a code group, with constant and variable volumes of selection. A method is described for determining the parameters of a synchronization device with respect to a code group. 3 ill. 1 tab. 4 ref. V. R.

2/2

- 30 -

MOROZOV, G. N.

IMPROVING THE THERMAL CIRCUITRY OF SINGLE-LOOP ELECTRIC POWER STATIONS WITH CHANNEL-TYPE REACTORS

[Article by G. N. Morozov, candidate of technical sciences, and V. M. Zorin, engineer; Moscow, ~~Engineering~~ *Engineering*, Russian, No. 3, 1972, pp. 4-6]

UIC 621.311.2:621.039

*1775 02218
179 June 1972*

The authors have considered the possibilities of improving the existing thermal system of the K-500-65/2000 turbine installation of the single-loop atomic electric stations with uranium-graphite channel-type reactor (steam parameters ahead of the turbine $P_0 = 6.59$ MPa, $t_0 = 260.4^\circ\text{C}$). Allowance was made for the specific features of this type of station, viz., the high requirements with respect to the feedwater quality; the large flow of condensate from the separator and from the intermediate steam superheater, which are characteristic for turbine installations using saturated steam; the specific features of the operation of the steam-generating equipment; and the appreciable electricity consumption of the circulating pumps of the reactor loop.

The proposed atomic electric station is shown schematically in Fig. 1.

The results of the optimization of the regenerator system in the low-pressure part, with allowance for the requirement of the water supply system, were reported earlier [1]. Installation of a slightly-acid cation filter past the low-pressure heater PND-4 has made it possible to forgo cascaded discharge of the low-pressure heater drains into the condenser and to eliminate from the system the coolant for the turbine separator, this flow being directed to the PND-4 heater.

In the existing variant, the drains of stages I and II of the intermediate steam superheater of the turbine installation are discharged in parallel streams into the deaerator, and this creates out the bleeding at the low pressure. In addition, owing to the heat introduced into the deaerator by the bleed steam, the flow of the main condensate is heated by less than 2°C at a total heating in the deaerator of 11.2°C , and therefore even slight deviations from the rated operating conditions (increasing the enthalpy of the discharge drains or of the main condensate as it leaves the low-pressure heater PND-4, etc.) can lead to an increase of the pressure in the deaerator and as a

USSR

UDC 621.793.6

CHEVELA, O. B., ORLOVA, L. M., and ~~MOROZOV, I. A.~~, Voronezh

"Investigation of the Shearing Strength of Plasma Coatings"

Kiev, Poroshkovaya Metallurgiya, No 8, Aug 70, pp 83-86

Abstract: The article considers the shearing strength of tungsten coating with stainless steel Kh18N10T. It is shown that spraying distance has a definite effect on the shearing strength. A correlation between the shearing strength with microstructure and residual stresses in the coating is shown. The fracture during shear tests takes place between layers-flakes of sprayed coating, and not in the zone coating--sublayer interface.

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USSR

UDC 669.083.4

5

REZNYAKOV, A. A., ISAKOVA, R. A., YESYUTIN, V. S., NESTEROV, V. N., NECHIPORENKO, G. I., MOROZOV, I. F., ZHUKOV, P. I., ZAVADSKAYA, N. F., and KALENIN, V. Ya.

"Increasing the Effectiveness of Vacuum Refining of Selenium"

M

Moscow, Tsvetnyye Metally, No 1, Jan 70, pp 54-57

Abstract: Data were obtained which confirm the results of previously conducted laboratory investigations regarding the possibility of producing high-quality commercial Se in a single operation. At 450° and a vacuum of 0.6 mm hg, the output of the apparatus was 2 t/m² per day. The yield of high-quality Se was 30%; highly volatile fractions and mother liquor accounted for 15 and 5%, respectively. During prolonged operation of the apparatus the disks overgrown with shelliness, which formed as the result of the precipitation of metal selenides suspended in Se. An investigation of the filtration of fusion and vapors of Se showed that it is possible to produce high-quality commercial Se in a single operation. The process has been introduced into Se production.

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UDC: 621.317.755

USSR

MOROZOV, I. F.

"A Device for Producing Elliptical and Circular Beam Scanning on the Screen of a Cathode Ray Tube"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 26, 1970, Soviet Patent No 278862, Class 21, filed 8 Mar 69, p 62

Abstract: This Author's Certificate introduces a device for producing elliptical and circular beam scanning on the screen of a cathode ray tube. The unit contains an active divider and a divider which consists of active and reactive elements. The device also contains asymmetric and symmetric parallel-balance amplifiers for horizontal and vertical deflection. As a distinguishing feature of the patent, reproduction accuracy is improved by connecting the dividers in parallel individually to the inputs of the asymmetric parallel-balance amplifiers for horizontal and vertical deflection.

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USSR

UDC 539.29:548.4

AKULOV, N. S., Academician of the Academy of Sciences Belorussian SSR, and
MOROZOV, I. M., Department of Physics of Nondestructive Testing, Academy of
Sciences Belorussian SSR

"Dislocation Multiplication in Crystals Under the Action of Alternating,
Small-Amplitude Vibrations"

Minsk, Doklady Akademii Nauk BSSR, Vol 17, No 1, 1973, pp 13-16

Abstract: Statistical dislocation theory makes it possible to calculate
variations in different physical properties which depend on the dislocation
density. The relation here between the dislocation density U and deformation
 ϵ is given by the equation:

$$\frac{dU}{d\epsilon} = \alpha_0 + (\alpha - \beta)U - \gamma U^2, \quad (1)$$

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USSR

AKULOV, N. S., and MOROZOV, I. M., Doklady Akademii ESSR, Vol 17, No 1, 1973, pp 13-16

The possibility of employing equation (1) for different cases has been confirmed by various experiments. In all these cases the coefficients α_0 , α , β , and γ in equation (1) were constant. But under special experimental conditions for example, in the action of ultrasound on a crystal, these quantities may depend on the exposure time as a result of the fact that the probability of the activation of dislocation sources will vary. A theoretical study of this case is of great interest to explain the results of the effect of ultrasound and other alternating loads on the physical properties of crystals. In the present study the increase in dislocation density is assumed to be due mainly to the operation of Frank-Read sources. A model is suggested for a quantitative description of dislocation density as a function of the exposure time for alternating loads. Divided is an analytic expression which is verified by experimental data obtained in the determination of the dislocation density in lithium fluoride crystals and polycrystalline copper subjected to ultrasonic vibrations.

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USSR

UDC 539.43

AKULOV, N. S., Academician of the Academy of Sciences BSSR, MOROZOV, I. M.,
Department of the Physics of Nondestructive Testing of the Academy of
Sciences BSSR

"On the Effect of Stress Amplitude and the Number of Vibration Cycles on the
Decrement in Damping in Metals"

Minsk, Doklady Akademii Nauk BSSR, No 4, Apr 72, pp 311-314

Abstract: A theory of the functional relationship between decrement in damping and the amplitude of the applied stress and the number of load cycles is constructed assuming that all dislocation segments determined by the dislocation grid at the beginning of the test are equal to one another and there is one point defect at each of these, with the result that the segment is divided by the defect into two parts L and $L-L$, which are denoted by L_1 and L_2 . For simplicity it is assumed that $L_1 = L$ is the distance from the defect to the closest dislocation node. It is noted that in constructing any such theory, one must consider that even a well annealed metal contains a dislocation grid; each dislocation segment is attached at the nodes of this grid, and the nodal points have relatively little mobility. The distance between neighboring nodes determines the length of the dislocation segment L , which under an applied stress $1/2$

USSR

AKULOV, N. S., MOROZOV, I. M., Doklady Akademii Nauk BSSR, No 4, Apr 72,
pp 311-314

can be bent in its slip plane. The point defects (impurity atoms, vacancies, etc.) fasten the dislocation segments by means of the Cottrell mechanism. Since an exact quantitative description of the change in the decrement of damping δ as a function of the stress amplitude σ_a and the number of cycles N , taking into account the case of the distribution of at least several point defects in one segment, involves major mathematical difficulties, the above assumptions concerning the dislocation segments were made. Expressions are derived for the dislocation deformation at the time of the N -th cycle, for the total scattering energy for the N -th cycle and for the decrement in damping. These expressions show the identical character of these relationships as functions of the number of cycles N but the different character as functions of the stress amplitude σ_a . It is noted that as the number of cycles N increases under large values of the stress amplitude σ_a , the effect of stripping of the dislocations from the nodes plays another, greater role and leads to the formation of submicrocracks.

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1/2 014 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--INFLUENCE OF THE STRUCTURE OF NOCL SUB3 --YCL SUB3 --MCL SUBN SYSTEM
MELTS ON THEIR REACTION WITH OXYGEN -U-
AUTHOR--(02)-MORDZOV, I.S., THIEN, P.N.

COUNTRY OF INFO--USSR

SOURCE--ZH. NEORG. KHIM. 1970, 15(6), 1667-73

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--MOLTEN CHLORIDE, OXIDATION, FLUID STRUCTURE, POTASSIUM
CHLORIDE, SODIUM CHLORIDE, RARE EARTH COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3006/1393

STEP NO--UR/0078/70/015/005/1667/1673

CIRC ACCESSION NO--AP0135067

UNCLASSIFIED

2/2 014

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0135067

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE REACTION OF NDCL SUB3 -MCL SUB3 (M EQUALS GD OR Y) WITH ATM. O IN FUSED KCL OR NACL WAS STUDIED AT 800DEGREES. COMPN. OF SOLID AND LIQ. PHASES ARE TABULATED. PHASE DIAGRAMS OF NDCL SUB3 -YCL SUB3 -KCL, NDCL SUB3 -YCL SUB3 -NACL,, AND NDCL SUB3 -BACL SUB2 SYSTEMS ARE CONSTRUCTED TO ELUCIDATE THE INTERACTIONS OF RARE EARTH CHLORIDES WITH THE CHLORIDE USED AS A FUSED SOLVENT. EFFECTS OF THE NATURE OF SOLVENTS ON REACTIONS WITH O ARE DISCUSSED. FACILITY: INST. OBSHCH. NEORG. KHIM. IM. KURNAKOVA, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 534.322.3+534.83

MOROZOV, K. D., YABLONSKIY, Y. V.

"Analyzer of Relative Spectrum and Frequency Characteristics"

V sb. Dinamika i akustika mashin (Machine Dynamics and Acoustics -- Collection of Works), Moscow, "Nauka", 1971, pp 117-122 (from RZh-Fizika, No 3, Mar 72, Abstract No 3Zh506)

Translation: A two-channel analyzer is described that was developed for determining the components of the relative spectrum or the spectral density of vibration-acoustical processes and also for recording the real and imaginary parts of the frequency characteristics of a system under a sinusoidal action with noise (in a servo filter mode). Authors abstract.

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USSR

UDC 534.322.3+534.83

BOBROVNITSKIY, YU. I., GENKIN, M. D., MOROZOV, K. D.

"A New Method of Acoustical Diagnostics"

V sb. Dinamika i akustika mashin (Machine Dynamics and Acoustics -- Collection of Works), Moscow, "Nauka", 1971, pp 98-108 (from RZh-Fizika, No 3, Mar 72, Abstract No 3Zh504)

Translation: A method for acoustical diagnostics of machines that uses a system of orthogonal functions to determine the diagnostics parameters is described. The theoretical basis of the proposed method is given and the basis for design of the diagnostic separation filter is explained. The case of the non-linear dependence of noise on the diagnostics parameter is discussed. The calculation of the parameters of the separation filter is generalized for simultaneous measurement of several diagnostic parameters. A model of the diagnostic device is described and Laguerre orthogonal functions are used. The results of a diagnostic experiment are presented which show the possibilities of the effective application of the proposed method in the diagnostics of mechanisms and machines. 36 ref. Authors abstract.

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MOROZOV, K.D.

Mechanics/Vibration Analysis

Dieble

59 JPAS 55466

19 MAR 72

TWO-CHANNEL NOISEPROOF ANALYZER OF AMPLITUDE-FREQUENCY AND PHASE-FREQUENCY CHARACTERISTICS

Article by K. D. Morozov, A. C. Morozov, V. V. Yablonskiy; Moscow, Vibroakusticheskaya Akademiya, Mekhanika i Tekhnicheskaya, Russian, 1971, pp 239-246

The vibrations of most machines are generated not by one, but by many sources. Therefore an extremely complex spectrum is almost inevitable, and in order to reveal the physical picture of the generation and propagation of vibratory energy of each source individually it is necessary to extract from the spectra the individual components of identical parts and compare them with respect to amplitude and phase with the corresponding components of one of the investigated signals, used as a reference signal. Such determination of frequency characteristics is possible when the investigated signal, used as the reference, is of purely sinusoidal form. Otherwise the measurement of frequency characteristics involves intolerably large errors. To avoid these errors the analyzer described herein incorporates the principle of tracking the first harmonic of the reference signal, whereupon it is possible to analyze the phase-frequency characteristics with a reference signal of arbitrary shape.

Many spectrum analyzers, including acoustic [1], are described both in Soviet and foreign literature. Of the entire collection of analyzers we will briefly discuss acoustic analyzers in the generally accepted sense of this term -- instruments for recording the current spectrum of initial signals themselves.

They are subdivided in turn, on the basis of the methods of solving this problem, into analyzers with selective filters and instruments without selective filters, which perform directly an approximate Fourier transform.

Noteworthy of analyzers with selective filters are instruments incorporating the heterodyne method of analysis as the most suitable for automatic recording of the entire spectrum without separation into sub-ranges. These instruments are extremely sophisticated, but they have disadvantages, such as poor selectivity in the bottom part of the range and excessively high selectivity in the top, difficulty in adjusting the

USSR

UDC 621.3.049:75

SOLIN, Yu. V., ODINOKOV, V. G., ROZHKOV, B. G., TSVELEV, E. A., MOROZOV, K. K.

"A Method of Applying the Drawing of a Printed Circuit"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obratzsy, tovarnyye znaki, 1970, No 25, Soviet Patent No 277897, class 21, filed 19 Nov 68, published 5 Aug 70, p 54

Translation: This Author's Certificate introduces a method of applying the drawing of a printed circuit to a light-sensitive layer. The method is implemented by a device which utilizes a light pipe for image transmission. As a distinguishing feature of the patent, manufacturing is simplified, image quality is improved and provision is made for making images of any configuration. Light flux acts on the various input ends of the light pipe in accordance with a predetermined program, resulting in formation of the necessary elements of the printed-circuit module on the outlet end of the light pipe which has a special configuration.

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1/2 013 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--LIMITING DYNAMIC ERROR IN RPM STABILIZATION SYSTEMS WITH SEPARATELY
EXISTED DC MOTOR -U-
AUTHOR--MOROZOV, K.S. *M*
COUNTRY OF INFO--USSR
SOURCE--ELEKTRICHESTVO (ELECTRICITY), 1970, NO 1, PP 37-40
DATE PUBLISHED-----70
SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR.
TOPIC TAGS--ELECTRIC MOTOR, DIRECT CURRENT, CURRENT STABILIZATION, ERROR
FUNCTION, DYNAMIC SYSTEM
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3003/1878 STEP NO--UR/0105/70/000/001/0037/0040
CIRC ACCESSION NO--AP0130705
UNCLASSIFIED

2/2 013

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0130705

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CONSIDERED IS THE QUESTION OF THE MAXIMAL DYNAMIC ERROR WHICH OCCURS IN RPM STABILIZATION SYSTEMS WITH SEPARATELY EXCITED DC MOTOR FOR VARIOUS VARIATIONS OF THE PARAMETERS OF THE SYSTEM AND DISTRIBUTING INPUTS. RELATIONS ARE PRESENTED FOR THE DEPENDENCE OF THE MAXIMAL DYNAMIC ERROR ON THE STABILIZATION SYSTEM PARAMETERS FOR VARIOUS VALUES OF THE VOLTAGE AND MOMENT OF RESISTANCE IN RELATIVE UNITS. THREE FIGURES, FIVE REFERENCES. FACILITY: MOSCOW METALLURGICAL NIGHT INSTITUTE.

UNCLASSIFIED

1/2 029 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--SEROLOGICAL EXAMINATIONS OF SOME SPECIES OF WILD AND DOMESTIC BIRDS,
FOR PREVALENCE OF INFECTIOUS AND ONCOGENIC AVIAN VIRUSES -U-
AUTHOR--(05)-VORONIN, YE.S., DZAGUROV, S.G., SMIRNOVA, N.YE., MOROZOV,
K.V., YELEKOEYEV, K.A.
COUNTRY OF INFO--USSR

SOURCE--VOPROSY VIRUSOLOGII, 1970, NR 2, PP 213-217

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--BIRD, SEROLOGIC TEST, VIRUS, ANTIBODY, LEUKEMIA

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1990/0736

STEP NO--UR/0402/70/000/002/0213/0217

CIRC ACCESSION NO--AP0108942

UNCLASSIFIED

2/2 029

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0108942

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SEROLOGICAL EXAMINATION OF SERUM SPECIMENTS FROM SOME SPECIES OF DOMESTIC AND WILD BIRDS WAS CARRIED OUT IN ORDER TO DETERMINE THE PRESENCE OF ANTIBODY FOR SOME ONCOGENIC AND INFECTIOUS AVIAN VIRUSES. WIDE PREVALENCE OF LEUKEMIA GROUP OF VIRUSES WAS ESTABLISHED IN ALL THE STRAINS AND BREEDS OF CHICKEN EXAMINED. EXAMINATION OF SERA FROM JAPANESE QUAIL FROM KHOSTA AND MAIKOP FARMS REVEALED NO ANTIBODY EITHER TO INFECTIOUS OR TO ONCOGENIC VIRUSES OF BIRDS. SURVEY OF JAPANESE QUAIL FARMS CLOSELY CONTACTING WITH CHICKEN FARMS ESTABLISHED CIRCULATION OF AGENTS FROM AVIAN LEUKEMIA GROUP.

UNCLASSIFIED

M
Veterinary Medicine

USSR

UDC 576.858.095.38:598.2

VORONIN, Ye. S., DZAGUROV, S. G., SMIRNOVA, N. Ye., MOROZOV, K. V., and YELEKOYEV, K. A., State Control Institute of Medical Biological Preparations imeni L. A. Tarasevich, Moscow

"Serological Examination of Some Species of Wild and Domestic Birds in Regard to the Spread of Infectious and Oncogenic Avian Viruses"

Moscow, Voprosy Virusologii, No 2, Mar/Apr 70, pp 213-217

Abstract: Serological examination of serum specimens from some species of domestic and wild birds was carried out in order to determine the presence of antibodies to some oncogenic and infectious avian viruses. A wide prevalence to the leukemia group of viruses was found in all strains and breeds of fowl examined. Examination of sera from Japanese quail from Khosta and Maykop farms revealed no antibodies either to infectious or to oncogenic avian viruses. Survey of Japanese quail farms in close proximity to chicken farms established the circulation of agents from the avian leukemia group.

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1/2 013 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--LIQUID PHASE SYNTHESIS OF ALCOHOLS FROM CARBON MONOXIDE AND
HYDROGEN ON A MOLTEN IRON CATALYST -U-
AUTHOR-(04)-BASHKIROV, A.N., MOROZOV, L.A., LOKTEV, S.M., KAGAN, YU.B.
COUNTRY OF INFO--USSR
SOURCE--NEFTEPERERAB. NEFTEKHIM. (MOSCOW) 1970, (4), 49-50
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--ORGANIC SYNTHESIS, ALCOHOL, CARBON MONOXIDE, HYDROGEN,
CATALYST
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NO----FD70/605019/B07 STEP NO--UR/0318/70/000/004/0049/0050
CIRC ACCESSION NO--AP0140901

UNCLASSIFIED

2/2 013

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0140901

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SYNTHESIS CONDITIONS WERE SIMILAR TO THOSE OF THE GAS PHASE PROCESS, BUT HIGHER SPACE VELOCITIES WERE USED FOR REDUCING THE WATER CONC. IN THE CATALYST ZONE. THE OPTIMUM CONDITIONS WERE AT 200 ATM, SPACE VELOCITY GREATER THAN OR EQUAL TO 10,000 HR PRIME NEGATIVE1, AND 160-62DEGREES. THE LIQ. PHASE PASSED THROUGH THE CATALYST IN A TUBULAR REACTOR, USING 1:10 CO-H, PROMOTED TYPICAL CATALYST, AND SYNTHINE, B. 270-300DEGREES WITH HIGH ALC5. AS LIQ. MEDIUM. THE REACTION PRODUCTS AND PART OF THE LIQ. PHASE WERE CARRIED AWAY BY THE GAS.

UNCLASSIFIED

USSR

UDC 62-531.4

YEFREMENKO, V.T., ZHURAKOVSKIY, T.D., MOROZOV, L.G., PERFIL'EV, L.M.,
RYAPOLOV, V.A., SVIRIDOV, G.S., TAREYEVA, V.N.

"Positional Tracking Drive"

USSR Author's Certificate No 262659, Filed 14/10/68, Published 19/05/70,
(Translated from Referativnyy Zhurnal Avtomatika, Telemekhanika i Vychislitel'-
naya Tekhnika, No 12, 1970, Abstract No 12 A274P by T.R.)

Translation: A positional tracking pneumatic drive is patented, consisting of a power cylinder divided by a piston into two working cavities connected to the high-pressure channel through calibrated chokes. The power cylinder shaft contains a fluid distributor consisting of a cylindrical plunger with spiral grooves connected to the low-pressure chamber and through apertures in the shaft of the power cylinder with its working cavities. The distributor is rotated by the controller through the required angle. As the distributor rotates, a pressure difference is developed in the power cylinder cavities, acting on the piston until the holes in the shaft are moved to a symmetrical position relative to the distributor slots. The rotation of the sensor is converted to forward movement of the power cylinder shaft by the drive system. One figure.

1/1

1/2 014 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--PREPARATION OF ACETYLENE AND ETHYLENE BY ELECTROCRACKING IN A
DIVIDED CONDENSED DISCHARGE -U-
AUTHOR-(04)-MOROZOV, L.G., SHULYAR, B.N., BUVALKINA, L.A., SOKOLSKIY, D.V.
COUNTRY OF INFO--USSR
SOURCE--IZV. AKAD. NAUK KAZ. SSR, SER. KHIM. 1970, 20(1), 85-6
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ACETYLENE, ETHYLENE, DIESEL FUEL, KEROSENE, AROMATIC
HYDROCARBON, ELECTROCHEMICAL REACTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--2000/2210

STEP NO--UR/0360/70/020/001/0085/0086

CIRC ACCESSION NO--AP0125790

UNCLASSIFIED

2/2 014

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0125790

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BY ADDING MOBILE C PARTICLES TO HYDROCARBONS TO DIVIDE THE CONDENSED DISCHARGE DURING ELECTROCRACKING, PRODUCTIVITY WAS INCREASED 5 TO 6 FOLD AS A RESULT OF THE INCREASED NO. OF DISCHARGE SITES AND RAPID QUENCHING. ELECTROCRACKING PRODUCTIVITY FOR N PARAFFINS, NAPHTHENIC HYDROCARBONS, AND DIESEL FUEL AND KEROSENE FRACTIONS WAS 23-5 L.-HR AND FOR AROMATIC HYDROCARBONS WAS 20-2 L.-HR. ENERGY CONSUMPTION WAS 5.0 KW-HR-M PRIME3 CRACKING GAS AND 7.5 KW-R-M PRIME3 UNSATD. HYDROCARBON GAS PRODUCTS. C SUB2 H SUB4 AND H IN 34-40 AND 25-9PERCENT YIELDS AND C SUB2 H SUB2 WERE THE MAIN PRODUCTS FROM C SUB6-15 N,ALKANES, BUT H CONTENT WAS HIGHER (SMALLER THAN OR EQUAL TO 60PERCENT) IN THE PRODUCTS FROM NAPHTHENIC AND AROMATIC HYDROCARBONS. FACILITY: KAZ. GOS. UNIV. IM. KIROVA, ALMA-ATA, USSR.

UNCLASSIFIED

1/2 018 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--ELECTROCRACKING OF LIQUID PETROLEUM HYDROCARBONS IN MICRODISCHARGES
-U-
AUTHOR--(04)-MCROZGV, L.G., SHULYAR, B.N., BUVALKINA, L.A., SOKOLSKIY, D.V.
COUNTRY OF INFO--USSR
SOURCE--IZV. AKAD. NAUK KAZ. SSR, SER. KHIM. 1970, 20(1), 70-4
DATE PUBLISHED--70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--ETHYLENE, PETROLEUM PRODUCT, OCTANE, ACETYLENE, CHEMICAL
REACTION RATE, CATALYTIC CRACKING, ELECTROCHEMISTRY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--2000/2097 STEP NO--UR/0360/70/020/001/0070/0074
CIRC ACCESSION NO--AP0125681

UNCLASSIFIED

2/2 018

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0125681

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN THE ELECTROCRACKING OF N OCTANE IN A 25 CM PRIME3 QUARTZ GLASS RECTANGULAR REACTOR ON OPPOSITE SIDES OF WHICH DISK ELECTRODES OCCUPIED A HORIZONTAL POSITION, HYDROCARBON WAS ADMITTED CONTINUOUSLY THROUGH A CENTRAL OPENING IN THE ELECTRODES WHILE AN ELEC. VIBRATOR WAS USED TO INSURE MAX. MICRODISCHARGES ON MOBILE C PARTICLES, 0.25-0.3 MM IN DIAM. MAX. C SUB2 H SUB2 CONTENT (30-40PERCENT) WAS OBSD. WHEN THE WT. OF C PARTICLES WAS 1-1.8 G AND THE APPLIED VOLTAGE WAS 3-5 KV. C SUB2 H SUB4 CONTENT WAS MAX. (37.0PERCENT) WHEN THE PARTICLE SIZE WAS 1.0 MM AND THE APPLIED VOLTAGE WAS 1 KV, BUT WAS STILL HIGH (25-30PERCENT) AT VOLTAGES OF 1-1.5 KV EVEN WHEN THE PARTICLE SIZE WAS 2.0-3.0 MM. SELECTIVITY FOR C SUB2 H SUB2 WAS MAX. (67PERCENT) AT A SPECIFIC ENERGY OF 11.0 KW-HR-M PRIME3 WHEN 1.0 G OF C PARTICLES 3.0 MM IN DIAM. WAS USED AND WAS STILL HIGH (60PERCENT) WHEN 1.4 G C WAS TAKEN IN ORDER TO REDUCE SPECIFIC ENERGY TO THE MIN. (6.5 KW-HR-M PRIME3) FOR PARTICLES OF THIS SIZE, AND WAS 61PERCENT WHEN 1.0 G C PARTICLES, 0.25 MM IN DIAM. WAS USED AND SPECIFIC ENERGY WAS MIN. (2.4 KW-HR-M PRIME3). FACILITY: KAZ. GOS. UNIV. IM. KIROVA, ALMA-ATA, USSR.

UNCLASSIFIED

USSR

UDC: 621.372.54

MOROZOV, I. N., LUGANIN, V. A., PODKHALYUZIN, V. A.

"Printed-Circuit Microwave Filters"

Tr. uchebn. in-tov svyazi. M-vo svyazi SSSR (Works of Academic Institutes of Communications. Ministry of Communications of the USSR), 1971, vyp. 53, pp 209-212 (from RZh-Radiotekhnika, No 3, Mar 72, Abstract No 3D28)

Translation: The paper presents the results of development of printed-circuit opposed-pin filter designs which give stable frequency response both under normal conditions and in a given temperature range. An investigation is made of filter designs which differ in the type of cavity grounding. Bibliography of three titles. N. S.

1/1

Acc. Nr: **AP0052089** **M**

Ref. Code: **UR0246**

PRIMARY SOURCE: Zhurnal Nevropatologii i Psikhiatrii imeni
S. S. Korsakova, 1970, Vol 70, Nr **3**,
pp **394-399**

CONCERNING THE REGULATION OF SUGAR LEVEL
AND THE ARTERIOVENOUS DIFFERENCE IN ITS CONTENT
IN HYPERTHYMIC CONDITIONS OF A CIRCULAR
AND SCHIZOPHRENIC GENESIS

L. T. Morozov

It was possible to establish the changes of the sugar content in the arteries and veins and the arteriovenous difference in the development of a manic attack in patients with manic-depressive psychosis and schizophrenia. Irrespective of the nosological belonging of the manic condition, a correlation was established between arterial glycemia and arteriovenous difference: an inverse in an inverted and direct in a positive difference. During a manic attack there is a successive change of the arteriovenous difference from the inverted to a decreased, then to a normal and finally into an increased. There are certain differences in the amount of inverted arteriovenous differences and in the level of glycemia in manic-depressive psychosis and schizophrenia. The author attempts to interpret these data in relation to the concept of hyper- and hypoergism.

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REEL/FILME
19820627

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USSR

UDC: 539.431

MOROZOV, L. V.

"Regularities of Accumulation of Damage and Distribution of Durability in Fatigue Tests of the Power Blades of Turbine Engines"

Samoletostr. i Tekhn. Vozd. Flota. Resp. Mezhved. Temat. Nauch.-Tekhn. Sb. [Aircraft Construction and Aviation Technology. Republic Interdepartmental Thematic Scientific and Technical Collection], 1973, No 30, pp 69-75 (Translated from Referativnyy Zhurnal Aviatsionnyye i Raketnyye Dvigateli, No 5, 1973, Abstract No 5.34.31, from the Resume).

Translation: Based on physical concepts of the accumulation of damage during fatigue testing, a mathematical model is constructed of this process. The theoretical rule of distribution of durability suggested agrees well with the empirical rules for distribution of durability produced in fatigue tests of specimens and parts of various materials, and also precisely describes the complex curves of intensity of failures. The distribution produced is a better approximation of the results of fatigue testing than the log normal distribution or the Weibull distribution. 3 figures, 3 biblio. refs.

1/1

Acc. Nr:

AP0049662

Abstracting Service:

CHEMICAL ABST. 5170

Ref. Code:

4R0079

2

M

96041z Polarographic study of aliphatic diisocyanates. Shapoval, G. S.; Lipatova, T. E.; Zhabenko, V. A.; Sheinina, L. S.; Morozov, M. A.; Lagutin, M. A. (Inst. Khim. mol. Soedin., Kiev, USSR). *Zh. Obshch. Khim.* 1970, 40(1), 25-8 (Russ). Polarographic data were reported for $(CH_2)_n$ -NCO, with $n = 4, 6, 7, 8, 9, 10$. The half-wave potential showed a relation to the above structure by gradual extinction of the mutual inductive effect of the NCO groups as the value of n increased. These potential values were indicative of the overall reactivity of the diisocyanates in such reactions as polyurethane formation and hence represent useful industrial value. The following half-wave potentials were reported (n , V given): 4, 1.93; 5, 2.12; 6, 2.18; 7, 2.23; 8, 2.235; 9, 2.24; and 10, 2.25. The measurements were made relative to the Hg anode by using AcNMe, solvent and Et₃Ni electrode at 25°. G. M. Kosolapoff

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REEL/FRAME
19801561

USSR

UDC 532.526:532.527

MOROZOV, M. G.

"Investigation of the General Characteristics of Supersonic Vortex Boundary Layers"

Minsk, Inzhenerno-Fizicheskiy Zhurnal, Vol 22, No 5, 1972, pp 885-889

Abstract: The results are presented of an experimental investigation of the characteristics of vortex boundary layers that form during the attachment of supersonic streams behind rectangular indentations on surfaces in a stream-line flow. The velocity profiles, the relationships of the spacings of the forming vortexes to various parameters, and rates of motion of the vortexes are measured. It is shown that in the first approximation, the vortex spacing depends only upon the length of the stall zone, and does not depend upon the Reynolds numbers and the Mach numbers. The velocity profiles indicate an initial acceleration of flow in the wall zone. The research was conducted within the range of Mach numbers $M = 1.7 - 3.0$ and Reynolds numbers $Re = 4.4 \times 10^5 - 4.0 \times 10^7$. 4 figures. 2 references.

1/1

USSR

UDC: 533.601.16

MOROZOV, M. G.

"Temperature of Adiabatic Surface With Vortex Boundary Layer"

Minsk, Inzhenerno-Fizicheskiy Zhurnal, Vol. 20, No. 5, May. 1971, pp 903-908

Abstract: Investigation of supersonic flow past a plate provided with a rectangular slot disclosed a reduction of temperature downstream of the slot.

Mathematical analysis of the vortex chain generated by the slot shows that these vortex cause a reduction of the wall temperature which approximately agrees with the experimental results.

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USSR

UDC 533.95

IVANOV, V. N., MOROZOV, M. G.

"Arc-Burning Stability in a Direct-Current Plasmatron"

Moscow, Generatory Nizkoterperaturnoy Plazmy--Sbornik (Low-Temperature Plasma Generators -- Collection of Works), "Energiya," pp 242-244 (From Referativnyy Zhurnal, Mekhanika, No 6, 1970, Abstract No 6B80)

Translation: An investigation is made of low-frequency (of the order 1 Hz) oscillation and jumps of the electrical parameters of an arc in a linear direct-current plasmatron. As a result of the conducted experiments, it was established that jumpwise changes of the regime and low-frequency pulsations in the plasmatron are connected with shifts of the reference spot of arc in the rear electrode. These shifts are determined by the geometry of the arc chamber and by the flow of the working medium. The existence of unstable operating conditions of the plasmatron is explained by the existence of unstable arc positions, which are connected with the flow pattern in the arc chamber. It was established that electrodes profiled in a specific manner make it possible, by means of efficient organization of the flow, to reduce sharply the amplitude of the longitudinal shifts of the reference spot of the arc in the rear electrode and to make the regime a more stable one.

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USSR

MOROZOV, M. G., Moscow

"Similarity of Supersonic Separated Flows"

Moscow, IAN SSSR, Mekhanika Zhidkosti i Gaza, No 6, Nov/Dec 70, pp 115-118

Abstract: The author analyzes the results of an investigation of flow around rectangular depressions on flat and axisymmetric surfaces in a supersonic airflow. A study is made of the distribution of static pressure and adiabatic temperature around indentations with edges of equal height, as well as with edges of different heights. Drag measurements are given for a conical-cylindrical body with an annular groove when the length of the groove and the height of the trailing edge are varied. In the case of supersonic flow over a surface with rectangular depressions, two types of flow are possible. For short depressions, the separated zone covers the entire depression. When the length of the depression exceeds a certain value, the second type of flow is observed with two separated zones on both edges of the depression and attached flow in the middle. It is shown that geometrically similar depressions with equally high edges in the case of the first type of flow have similar distributions of static pressure and adiabatic temperature on the bottom. Similar

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USSR

MOROZOV, IAN SSSR, Mekhanika Zhidkosti i Gaza, No 6, Nov/Dec 70, pp 115-118

data are given for depressions with edges of different heights. It is shown that there is a wide region of lengths for which a slight change in the height of the trailing edge of the depression brings about appreciable changes in drag. The possibility of unsteady flow was not considered.

USSR

UDC 621.219.4

VERBITSKAYA, T. N., IVANOV, I. V., MOROZOV, N. A.

"Dielectric and Nonlinear Properties of the VK-2 and VK-7 Varicaps in the Microwave Band"

Elektron. tekhnika. Nauch.-tekhn. sb. Radiodetali (Electronic Technology. Scientific and Technical Collection. Radio Parts), 1971, vyp. 1(22), pp 29-39 (from RZh-Radiotekhnika, No 11, Nov 71, Abstract No 11V493)

Translation: An investigation is made of the dielectric properties of VK-2 and VK-7 varicaps on frequencies of 1, 500 and 1000 MHz over a wide temperature range. The coefficients of static and dynamic nonlinearity of the ferroelectric ceramic are determined in the phase transition region. It is shown that in a wide temperature range encompassing the ferroelectric phase transition point, the relation between the microwave permittivity and the biasing electric field is described by the formula $\epsilon(E_-, T) = \epsilon(0, T) \cdot [a + k(T)|E_0|]^{-1}$, where $a = \epsilon_0(E_-, T) \approx 1$; $k(T)$ is proportional to $\epsilon^2(T)$. A new phenomenon is observed: in weak pulse fields, an anomalously high dynamic nonlinearity arises briefly in the ferroelectric phase. The nonlinear properties of ceramic and single crystals are compared. Resumé.

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1/2 024 UNCLASSIFIED PROCESSING DATE--09OCT70
TITLE--ELECTRIC PULSE BROACHING OF SMALL DIAMETER OPENINGS -U-
AUTHOR--(02)-ISAYEV, A.I., MOROZOV, N.A. *M*
COUNTRY OF INFO--USSR
SOURCE--MOSCOW, VESTNIK MASHINOSTROYENIYA, NO 2, PP 61-62
DATE PUBLISHED--70
SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR, MATERIALS
TOPIC TAGS--LOW ALLOY STEEL, HIGH CHROMIUM STEEL, TUNGSTEN ALLOY, WELDING
ELECTRODE, METAL BROACHING, PULSE WELDING, METAL DRILLING, METALLIC
SCREEN/(U)BA TUNGSTEN ALLOY, (U)M1 COPPER ALLOY, (U)12KHMF LOW ALLOY
STEEL, (U)1KH13 HIGH CHROMIUM STEEL
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1993/0891 STEP NO--UR/0122/70/000/002/0061/0062
CIRC ACCESSION NO--AP0113733
UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0113733

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SIMULTANEOUS BROACHING OF 80-114 OPENINGS WITH A DIAMETER OF 1, 1.5, 3, AND 3.5 MM WAS INVESTIGATED ON SHEET STEEL 1KH13 AND 12KH1MF, 5-6 MM THICK, BY COPPER MI AND TUNGSTEN VA ELECTRODES ON THE BASIS OF A TYPE 473 GENERAL PURPOSE ELECTRIC PULSE BROACHING MACHINE. THE TEST PROCEDURE IS DESCRIBED, AND THE RESULTS ARE PRESENTED. THUS, AS A RESULT OF THE RESEARCH, CONDITIONS OF THE STABLE SIMULTANEOUS BROACHING OF A NUMBER OF SMALL DIAMETER OPENINGS WERE DEVELOPED. EFFICIENT REGIMES WERE ESTABLISHED FOR THE ELECTRIC PULSE BROACHING OF OPENINGS OF DIAMETERS OF 1.0-3.5 MM IN SHEET STEEL 1KH13 AND 12KHMF, UP TO 6 MM THICK. THE DEVELOPED PROCESS FOR THE SIMULTANEOUS BROACHING OF OPENINGS MAY BE USED IN THE PRODUCTION OF VARIOUS TYPES OF SIEVES, PRODUCTIVITY BEING CONSIDERABLY HIGHER THAN IN THE CASE OF DRILLING.

UNCLASSIFIED

USSR

UDC: 539.3

MOROZOV, N. F., Leningrad State University imeni A. A. Zhdanov

"Specificities of Homogeneous Solutions of a Plane Problem With a Semi-Infinite Section in the Moment Theory of Elasticity"

Moscow, Doklady Akademii Nauk SSSR, Vol 202, No 5, 11 Feb 72, pp 1034-1035

Abstract: Reference is made to two papers dealing with homogeneous solutions in an angular region for a plane problem of elasticity theory. Taking moment stresses into account, A. I. Kalandiya was able to construct a homogeneous solution in which shifts and moment stresses in the region of the angle vertex are restricted, and ordinary stresses are singular. The aim of the present paper is to construct analogous solutions with restricted ordinary stresses and shifts and with singular moment stresses. At the same time, a general procedure is given for constructing systems of homogeneous solutions of two-dimensional moment theory of elasticity for the angle $\alpha = 2\pi$. The conclusion is arrived at, that as a result of the deformation under consideration, both sides of the section retain a common tangent at the origin of the coordinates and open cracks have the character of a return point. Analogous considerations can be applied also for angles $\alpha < 2\pi$. 3 references.

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USSR

UDC: 517.9:539.3

MOROZOV, N. F., YUDOVIN, M. E.

"On the Nature of Convergence of Bubnov-Galerkin Approximations in the Problem of Vibration of a Nonlinear Cylindrical Surface"

Tr. Leningr. tekhnol. in-ta tsellyulozno-bum. prom-sti (Works of the Leningrad Technological Institute of the Cellulose and Paper Industry), 1970, vyp. 25, pp 219-222 (from RZh-Matematika, No 5, May 71, Abstract No 5B519)

Translation: The authors study convergence of a sequence of Bubnov-Galerkin approximations to the unique generalized solution $u(x, t) \in W_2^{1,1} \left[\begin{smallmatrix} 0 \leq x \leq \pi \\ 0 \leq t \leq T \end{smallmatrix} \right]$ of the indicated problem which satisfies the identity

$$\int_0^T \int_0^\pi [-u_t \Phi_t + u_{xx} \Phi_{xx} - \{\Phi - K(u) \Phi\}] dx dt = 0,$$

where $K(u) = \varepsilon \int_0^\pi u_x dx \cdot u_{xx}$ and $\Phi(x, t)$ is a smooth function which vanishes on $t \in [T - \delta, T]$, $\delta > 0$.

1/2 It is shown that the Bubnov-Galerkin approximations $u^{(n)} = \sum_{l=1}^n u_l^{(n)}(t) \cdot \varphi_l(x)$.

MOROZOV, N. F., YUDOVIN, M. E., Tr. Leningr. tekhnol. in-ta tsellyulozno-bum. prom-sti, 1970, vyp. 25, pp 219-222

where $v_i(x)$ are eigenfunctions of the operator $\frac{d^4}{dx^4}$ in $L_2[0, \pi]$, and $u_i^{(n)} = \int_0^\pi u v_i(x) dx$ converge to the solution $u(x, t)$ with respect to the norm in space $W_{2,1}^{2,1}[0 < x < \pi, 0 < t < T]$. This implies convergence of $u^{(n)}(x, t)$ to $u(x, t)$ with respect to the cross sections $t = \text{const}$ in the norm $W_2^{2,1}[0 < x < \pi]$. V. Belov.

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USSR

UDC (621.313.322+621.314.222.6)-182.7

MOROZOV, N. R., POLYAKOV, S. I., YURCHAKEVICH, YE. R.

"Adjustment of the Electric Part of the 200 Megawatt Units of Burshtyn State Regional Electric Power Plant"

Moscow, Maladochn. i eksperim. raboty ORGRES --- V sb. (Adjustment and Experimental Operations of ORGRES /State Trust For the Organization and Rationalization of Regional Electric Power Plants and Networks7 -- Collection of Works), Vol 39, 1970, pp 260-266 (from RZh-Elektrotekhnika i Energetika, No 2, Feb 71, Abstract No 2 Yell6)

Translation: Twelve units with a total capacity of 2.4 million kilowatts (including the TGV-200 generator, the K-200-130 turbine, and the TP-150 boiler) have been installed at the Burshtyn GRES /State Regional Hydroelectric Power Station7. Ion excitation of the generators is used. Six units are connected to the 220-kv outdoor distributing system and six to the 330-kv outdoor distributing system. During adjustment operations, the corresponding circuits were analyzed from the point of view of operating relia-

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USSR

MOROZOV, N. R., et al, Naladochn. i eksperiment. raboty ORGRES --
V sb., Vol 39, 1970, pp 260-266

bility of the unit and convenience of operation. To reduce the electric testing time for the generator-transformer module, several new test and check procedures were proposed. During adjustment, certain defects were detected, for example, low-quality soldering of the stator winding conductors of generator No 5, deficiencies in the operation of the antivibration gas relays RGChZ-66 and so on. When adjusting the 6-kv medium voltage electrical equipment, the locations of the shields were selected considering the possible self-starting currents of the electric motors. Instead of the ET-521 relay, the synchro shield of a series of electric motors of blocks 1-6 was made from the RMT-562 relay. The shield for the 2,000-kilowatt motors is based on the RMT-565 relay. For the 380-volt electric motors, AV and AVM automatic breakers were used. The sets of shields from the zero sequence current transformers were adjusted considering the maximum load and a single-phase short circuit on the line end.

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USSR

MOBOZOV, N. R., et al, Meladochn. i eksperiment. raboty OGRRES --
V sb., Vol 39, 1970, pp 260-266

The shield of the 6/0.4-kv step-down transformers, from a single-phase short circuit to ground in the 0.4-kv network, was made from a relay with the dependence characteristic $R_{\text{tr}} = C_1/2$. To protect the low-power motors, the AP-50 automatic switches with combined tripping devices are provided. SK-32 storage batteries are installed to supply the 220-volt direct current. The generators (in the asynchronous mode and under thermal conditions) were subjected to special tests. It was discovered that the asynchronous mode of operation is not dangerous for the generators of the GRES, and the temperatures of the stator and rotor windings do not exceed the allowable limits. There are two illustrations and a four-entry bibliography.

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Luminescence

USSR

UDC 661.143:546.48'221

LAPIN, A. P., LEONOV, B. A., and MOROZOV, O. A.

"Photosensitive Layers of Cadmium Sulfide With Longitudinal Photoconductivity, Produced by the Electrophoretic Method"

Sb. nauch. tr. VNII lyuminoforov i osobo chist. veshchestv (Collection of Scientific Works of All-Union Scientific Research Institute for Phosphors and Ultrapure Substances), 1971, vyp. 6, pp 99-104 (English summary) (from RZh-Khimiya, No 16, 25 Aug 72, Abstract No 16L138 from summary)

Translation: An analysis is made of the existing methods of obtaining CdS photoresistors. To obtain layers with longitudinal photoconductivity, use of the phenomenon of electrophoresis is suggested. This method of layer deposition in an electrophoretic bath makes it possible to obtain CdS photoresistors with high photosensitivity and good reproducibility as far as electric and photoelectric properties are concerned.

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USSR

UDC: 661.143

MIKHALEV, A. A., MIRONENKO, V. M., MOROZOV, O. A., KOLESNIK, R. I.,
TETERYUKOVA, V. G., GUGEL', B. M.

"A Procedure for Predicting the Uniformity of the Luminescence
Color of a BM-5 Phosphor Coating"

Sb. nauch. tr. VNII lyuminoforov i osobo chist. veshchestv (Col-
lected Scientific Works of the All-Union Scientific Research
Institute of Phosphors and Extra Pure Materials), 1971, vyp. 5,
pp 125-132 (from RZh-Khimiya, No 7, Apr 72, Abstract No 7L178)

Translation: It was established by physical and chemical methods that in
applying batches of grade BM-5 luminescent compositions made by chemical
plants, the large fraction settling on the screen frequently contains an
excess of the composition with yellow luminescence color. For such batches of
BM-5, the luminescence color of the screen is typically nonuniform with a whit-
ish spot in the center. A method is proposed for evaluating the quality of
BM-5 luminescent composition with respect to the uniformity of the luminescence
color on the screen prepared from the BM-5. The procedure is based on separa-
tion into component parts followed by analysis of the granulometric composition
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USSR

MIKHAEV, A. A., et al. Sb. nauch. tr. VNIi luminoforov i osobo chist. veshchestv, 1971, vyp 5, pp 125-132

of the components. A coefficient of uniformity is derived which is equal to half the sum of the ratios of the weights of the B-3⁺ and B-3⁰ fractions of the composition, which contain particles from 16 to 20 microns, and greater than 20 microns, and the limiting value of the coefficient is established (2 or less). Determination of the coefficient is based on analysis of the behavior of more than 20 batches of BM-5 luminescent composition. Bibliography of 5 titles. Résumé.

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USSR

UDC 539.67

MOROZOV, O. G., and PIGUZOV, Yu. V.

"The Effect of KhN77TYuR Alloy Structure on Internal Friction"

Sb. "Vnutrenneye treniye v metallicheskih materialakh" (Internal Friction in Metallic Materials), Moscow, Izd-vo "Nauka," 1970, pp 134-137

Abstract: The effect of structural conditions of the KhN77TYuR alloy on internal friction at low and kHz measurement frequencies is studied.

Structural conditions obtained by standard and special regimes and also by cold rolling before aging are characterized mainly by boundary structure or by intra-grain structure.

Such deliberately selected structures, in the study of their effect on internal friction, make it possible to express a supposition on the relative contributions of the intra-grain structure and boundaries of complex alloys to the rise of high-temperature internal friction background at low and kHz measurement frequencies. 4 figures, 4 references.

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USSR

UDC 669.15.24.782:669.112.227.34

SHTEYNBERG, M. M., GOYKHENBERG, Yu. N., MIRZAYEV, D. A., and MOROZOV, O. P.,
Chelyabinsk Polytechnical Institute

"Martensite Transformation in the Plastic Deformation of Fe-Ni-Si Alloys"

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 30, No 6, Dec 70, pp 1200-1205

Abstract: Fe-Ni-Si alloys were melted in a 50-kg induction furnace, poured into 12.5-kg ingots, and forged into billets measuring 15 x 15 mm. The bars were homogenized for 10 hours at 100° C and then rolled into plates 1.5-2 mm thick from which samples measuring 60 x 5 x 1 mm were prepared. Chemical composition of alloy N28S was (in wt %): 28.1 Ni, 1.5 Si, 0.04 Mn, 0.07 Cr, 0.022 S, 0.012 P, balance Fe; composition of alloy N29S2 was: 29.3 Ni, 2.02 Si, 0.07 C, 0.13 Mn, 0.09 Cr, 0.02 S, 0.016 P, balance Fe. The martensite transformation temperature (M_s) was +10 for N28S and -60 for N29S2. From a study of the martensite formation by plastic deformation it was established that martensite needles of the finest martensite plates are formed during cooling and do so in and along the grain boundaries. The needles, formed by plastic deformation, are most often situated parallel and intersect

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USSR

SHTEYNBERG, M. M., et al, Fizika Metallov i Metallovedeniye, Vol 30, No 6,
Dec 70, pp 1200-1205

slip lines at small angles. The angle of disorientation in an austenite grain achieves a significantly large magnitude when plastic deformation is accompanied by the formation of martensite. This disorientation is much greater than when deformation is done above the M_d temperature.

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USSR

UDC 629.783.014.525(47)

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BALAYEV, N. F., GRODZOVSKIY, G. I., DANILOV, Yu. I., ZAKHAROV, V. M.,
KRAVTSEV, N. F., KUZ'MIN, R. N., MAROV, M. Ya., MOROZOV, P. M.,
NIKITIN, V. Ye., PEROV, S. P., PETUNIN, A. N., UTKIN, V. M., and
SHVIDKOVSKIY, Ye. G.

"Scientific Data on the Flight of Automatic Ionospheric "Yantar"
Laboratories"

Uch. zap. Tsentr. Aerogidrodinam. in-ta (Scientific Notes of the
Central Aerohydrodynamic Institute) 1971, Vol 2, No 2, pp 58-65
(from Referativnyy Zhurnal, Raketostroyeniye, No 11, Nov 71,
Abstract 11.41.87 Resume)

Abstract: Launches of automatic ionospheric "Yantar" laboratories
with gaseous plasma-ionic engines up to 100-400 km altitudes were
conducted with the aid of geophysical rockets, for the purpose of
studying prospects of controlled flight, in upper layers of the
atmosphere. Performance of gaseous plasma-ionic engines under iono-
spheric conditions was studied. Parameters characterising the
ion jet-ionospheric plasma interaction, as well as parameters of
neutral atmosphere were measured. Scientific data on conducted ex-
periments is presented. 8 figures, 1 table, 11 references.

1/1

USSR

UDC 621.57.041-213.3-752:621.565.92

BOGDANOV, V. P., MOROZOV, S. A., KOLOSOV, S. V., SVYATNYY, V. I.

"Vibration Spectrum of Household Refrigerator Compressors as a Function of Their Defects"

Moscow, Kholodil'naya Tekhnika, No 6, 1971, pp 19-22

Abstract: A study is made of the relation between the vibration characteristics of the household refrigerator compressor DKH2-1010 and its defects and failures. The vibration spectra of the compressor for one revolution of the crankshaft are presented, and a mathematical analysis of them is performed. Both artificially induced and ordinarily occurring defects and failures are considered. Division of the signal in time does not permit determination of all types of defects in the compressor since more than one defect can occur in certain intervals. Further separation of the signal within the intervals by means of filters and application of devices realizing elementary logical functions to separate defects generating the same frequencies permit analysis of all types of defects by their vibration characteristics. The same type of diagnostic device can be extended to all types of compressors.

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MATHEMATICS
Differential and Integral Equations

USSR

UDC: 519.3

MOROZOV, S. F.

"On Necessary Conditions for the Extremum of Two-Dimensional Variational Problems With a Set of Discontinuous Functions

Kazan', IVUZ: Matematika, No 1 (116), Jan 72, pp 55-63

Abstract: The author establishes the necessary conditions of the extremum for two-dimensional integrals of the calculus of variations in nonparametric form

$$I(f) = \int_{\Omega} F(x^1, x^2, f, f_{x^1}, f_{x^2}) dx^1 dx^2$$

with the set of discontinuous functions $f(x^1, x^2)$, $(x^1, x^2) \in \Omega$ defined by continuous surfaces T which may contain a finite number of pieces of cylindrical surfaces D_i with generatrices parallel to the ox^3 -axis. The Weierstrass-Erdman condition on the line of discontinuity of the extremum surface follows as a special case from the resultant necessary conditions. Bibliography of 9 titles.

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USSR

UDC 617-001.17-07:616-056.3:576.851.252

KOLKER, I. I., NOVIKOVA, T. K., and MOROZOV, S. S., Laboratory of Microbiology and Immunology and Burn Division, Institute of Surgery imeni A. V. Vishnevskiy, Academy of Medical Sciences USSR, Moscow.

"Allergy to Staphylococci in Patients With Burns"

Moscow, Klinicheskaya Meditsina, Vol 49, No 3, Mar 71, pp 87-92

Abstract: The persistent presence of Staphylococci in burn wounds, particularly in cases of severe burns, combined with absence of a stable immunity to infection with these microorganisms, led to the assumption that in patients with thermal burns an allergic state develops which plays an important role in the pathogenesis of Staphylococcus infections. Skin tests with Staphylococcus toxoid were carried out on 255 patients with burn traumas, in which the toxoid was applied intracutaneously. A positive skin reaction to the toxoid in a minimum dilution of 1:100, to which healthy persons do not react, was regarded as a sign of heightened sensitivity. The tests disclosed that the patients had initially a lowered skin sensitivity to the toxoid, which lasted for a period that increased in length with increasing severity of the burns. In patients with severe burn exhaustion and in cases of ultimately fatal burns

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KOLKER, I. I., et al., *Klinicheskaya Meditsina*, Vol 49, No 3, Mar 71, pp 87-92.

no skin reactions were observed during the entire period of observation (up to 1 yr). On termination of the period of lowered sensitivity, which must be regarded as due to inadequate immunological response, a heightened sensitivity was exhibited, due to allergic reorganization of the organism with respect to *Staphylococci*. Patients who had had severe burns and who returned 2-5 yrs later for treatment of scars or trophic ulcers exhibited a very high sensitivity to *Staphylococcus toxoid*. The sensitivity was more pronounced in patients with trophic ulcers than in those with scars. Sensitization to *Staphylococci* in persons with burns must be regarded as a factor that contributes to the prolonged course of *Staphylococcus* infections in burn patients and to the recurrence of these infections.

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USSR

UDC: 621.371.33

OROZOBKOV, T., MAMAYEV, O., MOROZOV, S. S.

"Methods of Calculating the Attenuation Factor of Ultrashort Waves Over Rough Terrain, and the Limits of Applicability of These Methods"

V sb. Materialy 1-y Konferentsii molodykh uchenykh AN KirgSSR, 1965 (Materials of the First Conference of Young Scientists of the Kirgiz SSR, 1965), Frunze, "Ilim", 1970, pp 123-125 (from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6A181)

Translation: Conditions of applicability are analyzed for various methods of calculating the diffraction attenuation factor with consideration to the effect of ground relief. One illustration, bibliography of three titles.
N. S.

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USSR

ZMITROVICH, A. and MOROZOV, V.

"ALGEK, the Tabular Language Translator"

Moscow, Elektronno-vychislitel'naya Tekhnika i Programmirovaniye
No. 4, 1971, pp 19-25

Abstract: In order to reduce the algorithmization time and the time for programming economic or production control problems, the authors consider decision-making tables, which are beginning to be used effectively for the solution of such problems. By way of an example, the analysis uses a block diagram describing the rules for preparing a list of parts corresponding to five categories depending on the weight, length, diameter, and number of parts in an assembly. Programs for the block diagram are written in ALGEK, KOBOL, and PL/I languages. Three types of decision-making tables are presented and discussed. Also examined are some of the applications of ALGEK. It is programmed in the codes of the "Minsk-22" computer. At the present time, the translator is being experimentally used in the Moscow Economic-Statistical Institute.

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USSR

UDC: 8.74

ZMITROVICH, A., MOROZOV, V.

"Tabular ALGEX Language Translator"

V sb. Elektronno-vychisl. tekhn. i programir. (Electronic Computer Technology and Computer Programming--collection of works), vyp. 4, Moscow, "Statistika", 1971, pp 19-25 (from RZh-Kibernetika, No 1, Jan 72, Abstract No 1V1013)

Translation: The paper deals with conversion of decision-making tables to programs in the ALGEX algorithmic language. An example is given to show the advantages of tabulation of the algorithm over a flowchart. Programs are given in ALGEX, COBOL and PL₁/1. Table structure and types are considered. Problems of using tabular algorithms in the ALGEX language in preprocessor operation are brought up. Basic preprocessor algorithms are briefly outlined. Authors' abstract.

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1/2. 010 UNCLASSIFIED PROCESSING DATE--18SEP70
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AUTHOR--MOROZOV, V. M
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UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AN0100628

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SOSNOV SHIPBUILDING FACTORY AT KIROV HAS LAUNCHED THE FIRST HOVERCRAFT TYPE PASSENGER SHIP OF THE "GOR, KOVCHANIN" CLASS. ITS CAPACITY IS 48 PASSENGERS, AND A SPEED OF 45 TO 50 KPH. THIS CRAFT WAS SHIPPED TO VONKH U.S.S.R.

UNCLASSIFIED

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USSR

UDC: 621.397

SHUMLYAYEV, V. S., MOROZOV, V. A., SUDRAVSKIY, D. D., and
SHABUNIN, A. I.

"Large-Screen Stereo Television"

Moscow, Tekhnika kino i televideniya, No 3, 1972, pp 65-66

Abstract: A description is given of experiments in stereoscopic television on a large screen conducted by the Television Department in the M. A. Bonch-Bruyevich Electrotechnical Institute of Communications in Leningrad. The experimenters used the transmitting part of a two-channel stereo television equipment, with two television light-valve projectors used for image reproduction. At a light flux of up to 2000 lumens, the brightness of the image is high enough for use of the polarization method of separation of image pairs. Specifications of the system, which conform to Government Standard GOST 7845-55, are given together with its block diagram. The authors conclude that this system may be used in various types of training situations, such as operation of aircraft, for lectures in the VUZ schools, and in applied science.

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USSR

UDC 621.382.2

KOVTONYUK, N. F., ~~MOROZOV, V. A.~~, FADIN, V. G., BOGOROLOV, P. A., ALISULTANOV, YU. B., POTAPOV, I. S.

"Storage of Light Pulse Action in Metal-Dielectric-Semiconductor-Dielectric-Metal Structures Operating in the Prebreakdown Mode"

Leningrad, Fizika i Tekhnika Poluprovodnikov, Vol 6, No 3, 1972, pp 575-576

Abstract: A study was previously made of the phenomenon of accumulation of free carriers under the effect of pulse and stationary illumination in metal-dielectric-semiconductor-dielectric-metal structures in which there were no continuous currents through the dielectric layers [N. F. Kovtonyuk, et al., FTP, No 5, 1174, 1971]. A study has now been made of the case where significant leakage currents flow through the dielectric layers and accumulation of carriers does not occur in practice. Storage of the short light pulse action was detected. On inclusion of the voltage pulse in the absence of illumination of the sample, a capacitive current pulse is observed on the leading edge of the pulse. This capacitive current pulse is characteristic of structures without leakage. Then comes a segment where the continuous current has a comparatively low value (segment I) and only after this is a significant increase in the continuous current through the structure observed. After some time, it

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KOVTONYUK, N. F., et al., Fizika i Tekhnika Poluprovodnikov, Vol 6, No 3, 1972, pp 575-576

reaches a constant value (segment II). The length of segment I is less the greater the voltage pulse amplitude. The magnitude of the saturation current in segment II approaches saturation with an increase in voltage. Under the effect of a light pulse, a photoconductivity signal is observed in segment II. Current oscillograms and the length of segment I and magnitude of the current of segment II as functions of the voltage pulse amplitude are presented.

Structures were manufactured so that the dielectric resistance was commensurate with the semiconductor resistance, and it was discovered that the sensitivity of such structures is no lower than in good metal-dielectric-semiconductor-dielectric-metal structures operating in the pulse accumulation mode. The data indicate that the prebreakdown operating mode of the investigated structures can be used in creating dynamic storage elements and also certain types of photoreceivers.

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USSR

UDC 532.5:621.22

MOROZOV, V. A.

"Hydraulic Calculation of the Flow Portion of a Hydrodynamic Clutch"

Sb. nauch. rabot. Fak. avtomat. ustanovok. Omsk. politekhn. in-t (Collection of Scientific Works of the Faculty of Automatic Installations. Omsk Polytechnical Institute), Omsk, 1972, pp 175-181 (from RZh-Mekhanika, No 3, Mar 73, Abstract No 3B773)

Translation: The purpose of this study is to explain a clearer technique for determining the rational dimensions and shape of the flow portion of a hydrodynamic pump in accordance with the actual character of the liquid flow in the closed working cavity, thus ensuring transmission of power from one drum to another without a rigid bond between them.

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USSR

MOROZOV V. A.

"Problems of Construction of a Two-Stage Procedure for Sequential Decoding Which is Optimal as Concerns Probability of Error"

Informatsionnye Materialy. Nauch. Sovet po Kompleks. Probl. "Kibernetika" AN SSSR [Information Materials, Scientific Council on the Complex Problem of "Cybernetics," Academy of Sciences USSR], No 3(50), 1971, pp 23-30, (Translated from Referativnyy Zhurnal, Kibernetika, No 3, 1972, Abstract No 3 V376 by K. Zigangirov).

Translation: A two-stage procedure for sequential decoding is suggested: in the first stage, ordinary sequential decoding of the sequence received is performed, while in the second stage sequential decoding of difficult sectors is performed, following preliminary recording on magnetic tape. The probability of error, mean number of operations and probability of failure to decode in the first stage are estimated.

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